



## **QUALIFICATIONS EVIDENCE**

**FOR RFP # 33150-02211**

### **P-12 LDS – EARLY WARNING DATA SYSTEM**

Proposal Submitted by:



Otis Educational Systems, Inc.  
3845 Powder Springs Road, Suite 202  
Powder Springs, Georgia 30127  
Telephone: (770) 810-0080 x102  
FAX: (770) 234-6963

Along with:

**Microsoft** | Services



**DOUBLE LINE // PARTNERS**



June 1, 2011

Ms. Kristen McKeever  
Tennessee Department of Education  
6<sup>th</sup> Floor Andrew Johnson Tower  
710 James Robertson Parkway  
Nashville, TN 37243

RE: RFP# 33150-02211 P-12 LDS – EARLY WARNING DATA SYSTEM

Dear Ms. McKeever:

Otis Educational Systems, Inc. (OtisEd) is pleased to submit this proposal to the State of Tennessee Department of Education (TDOE). This proposal is in response to the P-12 LDS-Early Warning Data System RFP (RFP # 33150-02211), to provide an Early Warning Data System solution to support the foundation of the State Longitudinal Data System. We believe we have assembled a team, capable and experienced in delivering just such a solution to the Tennessee Department of Education. Our team brings together the leading and innovative P-12 Data Warehouse-Data Management and Early Warning System experts with OtisEd's iMart Data Management Framework solution, Microsoft Solution Architecture and Security and an experienced P-12 service delivery firm in Celero.

- **OtisEd is a proven leader in P-12 data management and early warning system solutions at both the LEA and SEA level and offers a proven, off-the-shelf, P-12 Dimensional Data Model and related data management tools based on years of research and development.**
- **Microsoft Services is a proven leader in Service Oriented Architecture for Education providing secure Claims Based Authentication in collaborative environments that provide access to innovative technologies and world-class expertise, enabling you to envision, design, and deploy solutions to meet your exact needs.**
- **Celero Partners Corporation is one of the nation's premier education consulting firms with a strong track record of success in State Longitudinal Data Stores (SLDS), data warehousing implementation and training.**
- **Double Line Partners, LLC is a consulting firm focused on serving the public sector, with targeted emphasis on working in K-12 education. The firm's philosophy is rooted in "double bottom line" management with the goal of improving social impact while sustaining financial and business performance. The management team has extensive experience working with educational entities at the federal, state and local levels to develop performance management systems – dashboards, scorecards, and portals - that assist educators with continuous improvement efforts.**

Departments of Education across the country are increasing services to their LEAs by organizing and making available data in an informative and easy to understand fashion. To assist the TDOE achieve its mission to provide an Early Warning Data System (EWDS) to assist educators in monitoring student performance and outcomes and provide critical data pertinent to the K-12 community; we have assembled an exemplary team of experts to enable the TDOE to meet and exceed all of the objectives of the RFP and to deliver a proven framework within the specified timeframe and budget.

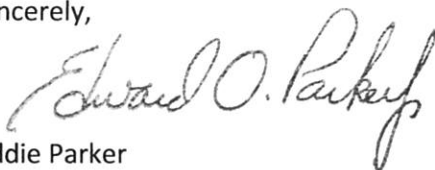
We are proposing the iMart Data Management Framework tool set that will provide the out-of-the-box proven Microsoft based framework, tools and methodologies, and the experience to assist TDOE meet their immediate needs and provide you with the flexibility to expand and build internally as needs and requirements change. This solution creates a solid foundation for future expansion, reducing cost and development time and you own it! The solution is already built and is in production in other SEAs today providing all of the foundational building blocks necessary for an effective Early Warning System. With zero license maintenance costs attached, the system is 100% sustainable from a licensing perspective. With our goal of making the TDOE self-sufficient with our proven knowledge transfer program, we enable the TDOE to customize, change and expand in your timeframe, as data demands change; leaving the TDOE 100% self-sufficient.

The OtisEd team provides all four key elements required for a successful EWDS and the operational support you will need through implementation. As a result, we firmly believe that our proposed solution and experienced team not only provides the capability requested in your RFP, but far exceeds it to meet the future needs of the State of Tennessee.

By signing below, OtisEd certifies that we are in compliance and agreement with all the provisions of the RFP and the Instruction to Proposals and can meet the proposed start date. The prices supplied are firm fixed prices, valid until September 30, 2011. If you need any clarification or if we can answer any questions please feel free to contact me directly at 770-810-0080 Ext. 101 or Tim Nall referenced in item 6.2.2.

Our team stands ready to work collaboratively with the TDOE to provide the foundation for your vision.

Sincerely,

A handwritten signature in cursive script that reads "Eddie O. Parker".

Eddie Parker  
OtisEd  
CTO/Founder

## TABLE OF CONTENTS/QUALIFICATIONS EVIDENCE GUIDE

<b>PROPOSER LEGAL ENTITY NAME:</b>		<b>Otis Educational Systems, Inc.</b>
<b>Proposal Page # (Proposer completes)</b>	<b>Item Ref.</b>	<b>QUALIFICATIONS EVIDENCE</b>
<b>4</b>	<b>6.2.1</b>	Detail the name, e-mail address, mailing address, telephone number, and facsimile number of the person the State should contact regarding the proposal.
<b>5</b>	<b>6.2.2</b>	Provide the RFP Attachment 6.1., <i>Proposal Statement of Certifications and Assurances</i> completed and signed by an individual empowered to bind the Proposer to the provisions of this RFP and any resulting contract. The document must be signed without exception or qualification.
<b>6</b>	<b>6.2.3</b>	Provide a statement, based upon reasonable inquiry, of whether the Proposer or any individual who shall perform work under the contract has a possible conflict of interest ( <i>e.g.</i> , employment by the State of Tennessee) and, if so, the nature of that conflict.  <i>Any questions of conflict of interest shall be solely within the discretion of the State, and the State reserves the right to reject any proposal or cancel any award.</i>
<b>6</b>	<b>6.2.4</b>	Provide a statement of whether the Proposer or, to the Proposer's knowledge, any of the Proposer's employees, agents, independent contractors, or subcontractors, proposed to provide work on a contract pursuant to this RFP, have been convicted of, pled guilty to, or pled <i>nolo contendere</i> to any felony. If so, include an explanation providing relevant details.  <i>Any issues relating to such a matter shall be solely within the discretion of the State, and the State reserves the right to reject any proposal or cancel any award.</i>
<b>6</b>	<b>6.2.5</b>	Provide a statement of whether there is any material, pending litigation against the Proposer that the Proposer should reasonably believe could adversely affect its ability to meet contract requirements pursuant to this RFP or is likely to have a material adverse effect on the Proposer's financial condition. If such exists, list each separately, explain the relevant details, and attach the opinion of counsel addressing whether and to what extent it would impair the Proposer's performance in a contract pursuant to this RFP.  <i>Any issues relating to such a matter shall be solely within the discretion of the State, and the State reserves the right to reject any proposal or cancel any award.</i>  <i>All persons, agencies, firms, or other entities that provide legal opinions regarding the Proposer must be properly licensed to render such opinions. The State may require the Proposer to submit proof of such licensure detailing the state of licensure and licensure number for each person or entity that renders such opinions.</i>
<b>6</b>	<b>6.2.6</b>	Provide evidence that the Proposer is a Microsoft Certified Partner.
<b>7</b>	<b>6.2.7</b>	Provide evidence that the Proposer has previously implemented their data model in a K-12 Local Education Agency or State Education Agency.

**6.2.1** The State should contact the following person regarding this proposal

Name: Tim Nall  
E-mail: [tim.nall@otised.com](mailto:tim.nall@otised.com)  
Address: Otis Educational Systems, Inc.  
3845 Powder Springs Road, Suite 202  
Powder Springs, GA 30127  
Telephone: +1 770-810-0080 Ext. 102 (Office)  
678-859-6032 (Cell)  
FAX: +1 770-234-6963

## 6.2.2

### PROPOSAL STATEMENT OF CERTIFICATIONS AND ASSURANCES

An individual legally empowered to contractually bind the Proposer must sign and complete the *Proposal Statement of Certifications and Assurances* below as required, and this signed statement must be included with the proposal as required by the RFP Attachment 6.2.

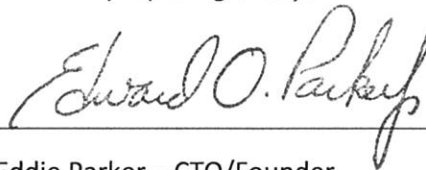
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**The Proposer does, hereby, expressly affirm, declare, confirm, certify, and assure ALL of the following:**

1. The Proposer will comply with all of the provisions and requirements of the RFP.
2. The Proposer will provide, for the total contract period, all services defined in the Scope of Services specified by the *Pro Forma Contract* attached to the RFP.
3. The Proposer accepts and agrees, without qualification, to all terms and conditions set out by the *Pro Forma Contract* attached to the RFP.
4. The Proposer acknowledges and agrees that a contract resulting from the RFP shall incorporate, by reference, all proposal responses as a part of the contract.
5. The Proposer will comply, as applicable, with:
  - (a) the laws of the State of Tennessee;
  - (b) Title VI of the federal Civil Rights Act of 1964;
  - (c) Title IX of the federal Education Amendments Act of 1972;
  - (d) the Equal Employment Opportunity Act and the regulations issued there under by the federal government; and,
  - (e) the Americans with Disabilities Act of 1990 and the regulations issued there under by the federal government.
6. To the knowledge of the undersigned, the information detailed within the proposal submitted in response to the RFP is accurate.
7. The proposal submitted in response to the RFP was independently prepared, without collusion, under penalty of perjury.
8. No amount shall be paid directly or indirectly to an employee or official of the State of Tennessee as wages, compensation, or gifts in exchange for acting as an officer, agent, employee, subcontractor, or consultant to the Proposer in connection with the RFP or any resulting contract.

*By signature below, the signatory certifies legal authority to bind the proposing entity to the provisions of this RFP and any contract awarded pursuant to it. The State may, at its sole discretion and at any time, require evidence documenting the signatory's authority to legally bind the proposing entity.*

**PROPOSER SIGNATURE & DATE:**



**PRINTED NAME & TITLE:**

Eddie Parker – CTO/Founder

**PROPOSER LEGAL ENTITY NAME:**

Otis Educational Systems, Inc.

**PROPOSER FEIN or SSN:**

58-2076054

- 6.2.3** OtisEd certifies we have no individual who shall perform work under the contract who has a known possible conflict of interest pertaining to the requirements of this RFP.
- 6.2.4** OtisEd certifies compliance with 6.2.4 and has no knowledge of any employees, agents, independent contractors, or subcontractors, proposed to provide work on a contract pursuant to this RFP, have been convicted of, pled guilty to or pled *nolo contendere* to any felony.
- 6.2.5** Otis Educational Systems, Inc., Microsoft Consulting Services, and Celero Partners Corporation certify we have no pending litigation against the Proposer that the Proposer should reasonably believe could adversely affect its ability to meet contract requirements pursuant to this RFP or is likely to have a material adverse effect on the Proposer's financial condition.
- 6.2.6** Otis Educational Systems, Inc. is an active Certified Microsoft Partner enrolled as a "Silver Data Platform Partner". Microsoft Partner ID# 1153206

### 6.2.7 Evidence of Previous Implementation

Our team understands that TDOE is focused on developing a system that will meet your immediate needs, but has the flexibility to expand as the full Early Warning Data System (EWDS) is developed, modified and expanded. We have considerable experience and success ***implementing the proposed solution framework in states across the country including Louisiana, North Dakota, Nevada, and most recently Delaware, in addition to numerous School Districts.***

We believe the iMart Data Management Framework is the only commercially available solution that is currently being used by other state agencies, that will provide a conformed operational warehouse, pull data daily/nightly from all districts, alert districts of invalid data, provides a Unique ID system with case management, secures delivery through Microsoft Services Claims Based Authentication and provides existing early warning content reports already built; including a core set of standardized dashboards that provide meaningful data your community partners can understand.

An Early Warning Data System (EWDS) at the state and district level ***requires*** four components: ***Collection, Management, Content and Delivery.*** Our installed solution provides all four elements:

1. **Collection** – the iMart Vertical Data Submission tools enable our clients to integrate all available source data sets into the warehouse. Nevada, Louisiana and North Dakota use this approach to collect data nightly from disparate system into the iMart system.
2. **Management** – the iMart Data Management Framework provides a conformed data warehouse and dimensional P-12 data model that can be easily enhanced to include all source data. Our clients are trained to manage and extend their systems using methodologies, tools and techniques delivered as part of our system. The framework includes not only a P-12 data model but data validation and system monitoring components, stored procedures, SSIS Packages and SSRS reports and a collection of windows applications to manage the processes.
3. **Content** - the iMart Report Pack provides the foundation for various level of reporting from casual users to complex report writers. Our clients have deployed dashboards and baseline reports to allow them to begin reporting almost immediately.
4. **Delivery** - the iMart Learner Interface provides a Microsoft SharePoint based portal to allow a secure and easy access to all iMart Tools. North Dakota is rolling out this interface to their districts. Other clients utilize Microsoft Reporting Services as the distribution mechanism.



The following Evidence Matrix catalogs the iMart Solution components that have been implemented in four of our client sites that we are submitting as reference. Further descriptions of each of these capabilities is provide below in the section titled “*Evidence Matrix Capabilities Descriptions*”

## Evidence Matrix

iMart Delivered Capabilities	Nevada Dept. of Education	North Dakota Info Tech Dept. (ITD)	Louisiana Dept. of Education	Metro Nashville Public Schools
iMart Data Management Framework	✓	✓	✓	✓
iMart K-12 Data Model	✓	✓	✓	✓
iMart Connector Components	✓	✓	✓	✓
iMart System Monitoring	✓	✓	✓	✓
Automated Alerts from Nightly Processing to IT Staff	✓	✓		✓
iMart Vertical Data Submission	✓	✓	✓	
Nightly Data Collection	✓	✓	✓	✓
Manage LEA to SEA cross reference for Attendance, Enrollment	✓			
iMart Data Validation	✓	✓		✓
iMart-Assessment Load Manager (ALM)		✓	✓	✓
State (or LEA) Assessments Loaded into iMart Assessment Result tables	✓	✓	✓	✓
iMart Learner Interface		✓		
iMart Reports Pack	✓	✓	✓	✓
iMart Security	✓	✓	✓	✓
iMart Identify – Unique ID System	✓		✓	
iMart Training – Self-sufficient IT staff	✓	✓	✓	✓
iMart Load Early Load Often Implementation	✓	✓	✓	✓
iMart Association Membership	✓	✓	✓	✓
Association Review of new Dashboard options		✓		✓
Client Extended Reporting	✓	✓	✓	✓
Dashboards configured and deployed to Teacher level				✓
Microsoft Architecture Solution including SQL Server 2008 R2	✓	✓	✓	✓
Microsoft BI and Reporting Tools	✓	✓	✓	✓
Project Management and implementation resources	✓	✓	✓	✓

## Evidence Matrix Capabilities Descriptions

**iMart Data Management Framework:** is a collection of SQL Server Integrated Services Packages, T-SQL Stored Procedures, Databases, Tables, Views, Reports and Windows applications for managing and loading an Operational Longitudinal Data Store and a Longitudinal Data Warehouse.

The included packages and stored procedures enable sophisticated load processing including surrogate key management; change data capture mechanisms to identify new, updated, and deleted records, and time-stamping to provide as-of-date and cutoff-date reporting. Detailed logging of each task/step in the ETL process is stored and operational reports provide detailed information on the status of each agency's data submissions.

The iMart solution includes the following components.

- iMart OLDS – Operational Longitudinal Data Store recording all transactions
- iMart LDW – Longitudinal Data Warehouse which gives current historical view
- iMart Stage – Holds Raw and Conformed staging tables per submitting agency
- iMart Monitor - Centralized monitoring, meta data and process governing structures
- iMart Data Validation – Manages and track data validations and reporting
- iMart ALM – Assessment Load Manager tables and structures. Facilities Assessment Loading
- iMart Identify – Unique ID assignment and case management database
- iMart Security – Contains centralized security structures to manage row level security to facility system, district, school and teacher/staff role based security

**iMart P-12 Data Model:** The base P-12 data model as implemented in Louisiana, Nevada, North Dakota and MNPS includes District, School, Classroom, Staff, and Student level data capturing course grades, enrollment activities, attendance activities, discipline events and responses, assessment results, teacher certifications, school programs, staff salaries, student academic awards, course schedules, overall GPA and AYP. The model was created using “Star Schema” methodologies and best practices. It can be easily extended taking advantage of the existing conformed dimensions to create additional subject areas as desired.

**iMart Connector Components:** The DMF is structured to isolate the “ET” (extract/transform) part of “ETL” from the “L” (load). Using our connector strategy extract and transform components for various Student Information Systems have been created and deployed within our client base. At the referenced clients, we have configured “PowerSchool”, “Chancery SMS”, “Infinite Campus” and “SASlxp” SIS connectors. We have also configured connectors for internal systems at the referenced client sites for Active Directory, finance and HR. A generic Flat File connector is given as part of the base product as well.

**iMart System Monitoring** - This monitoring system logs the execution of each package into a central database and gives alerting and reporting options based on package success/failures.

The iMart Data Management Framework contains reports specifically for the IT staff to manage and monitor the ETL process as well as data validation reports that are designed to be reviewed by the source system owners.

- **iMart ETL Process Monitor Report**

The iMart ETL Process Monitor report gives a dashboard for monitoring the daily/nightly loading of data from each data source. This report shows each stage of the process from extraction to the load into the OLDS. The report shows days since last processed, number of errors, warnings and a status indicator by source. The report auto updates every 30 seconds and the user is able to drill into various areas of the report to get additional details on a particular route or a submission analysis report.

- **iMart Route Details Report**

The iMart Route Details Report gives detailed information stored in the iMart Monitor database associated with the specified Route and Submitting Agency (Source). This report allows the user to see which step the route is currently processing and it will show detailed error or warning messages here.

- **iMart Submission Analysis Report**

The iMart Submission Analysis Report is used by IT staff and by the submitting agency to review the submission after a batch has been processed. This multi-page report contains a high level dashboard showing the processing times for each route and whether the submission was eventually accepted.

**iMart Vertical Data Submission** - Is a component that aids in submitting data from the district's source systems into the central repository. It collects data from a local system from one or more data sources using a Manifest XML configuration file and sends the data to an FTP site where the District can subsequently collect and process the data. This Windows .NET 2.0 application is not required for LEA data management but might be useful where you want to automate nightly collections where you have SEA business.

Data is submitted nightly (or as defined by the client) in an automated, unattended fashion, and processed using codified business rules through data staging, data conforming, data validation, and data loading. Exception handling is built within the solution and provides exception logging and reporting back to the submitting agency for data correction at the source.

MNPS is able to achieve Nightly Data Collection without using the VDS by using a direct SMS connector we constructed during the engagement.

**iMart Data Validation** – is the iMart component used to manage the process for validating the data being loaded into the system. Business rules for tables and fields are stored and processed with dynamically driven reporting services reports that can be configured to be emailed to school clerks or district data coordinators each day as your data is processed. The Data Management Framework is fully integrated with the iMart Vertical Data Submission components to automate the nightly collection, transformation, and loading of data into the longitudinal data system.

**iMart Assessment Load Manager (ALM)** – is a wizard driven windows application that assists the assessment coordinator in loading test results returned by local or national test vendors. The wizard manages the tasks involved for loading the assessments into iMart. The tool is dynamic allowing you to quickly load new assessment definitions from scratch or start from a previous assessment definition. The ALM helps manage the identification of assessment record to a particular student in iMart, the management of measure taxonomies and the assignment of proficiency levels.

**iMart Learner Interface:** The “window” into the data is developed using Microsoft SharePoint Server and with the release of Microsoft SharePoint Server 2010 will easily take advantage of all the new

functions being released. The iMart Learner Interface is the component of the systems that users will have the ability to have a personalized view of the iMart Data Warehouse, viewing only the data that they have authority to see. Identity management is administered within iMart Learner Interface. An administrator can utilize existing user groups that currently exist in your Active Directory or create and utilize LDAP and form based authentication for expanding users outside your domain.

The end-user analytic, reporting and other information are deployed through the portal targeted to user role and filtered by individual user. The portal will use SharePoint features such as Excel Services, PerformancePoint Services and SQL Server Reporting Services (SSRS) to provide analytic, dashboard, and report information views. This architecture is intended to support a state at an enterprise level such that sites and functions can be added over time to provide new services as opportunities arise, and that changes in individual line-of-business systems do not impact the overall system.

**iMart Reports Pack** – The iMart Dashboards consist of longitudinal reports that allow users to drill from aggregate Key Performance Indicators into detailed student records. Our dashboard reports include Student, Classroom, School, and District level dashboard profiles with interactive drill through and drill down features. These reports include student data (e.g. demographics, course schedules, grades, discipline, attendance, & program participation), and assessment results (e.g. item, strand, and composite scores; score types/ scale of measurement; accommodating both summative & formative assessment results). This pack contains predefined end user reports and the corresponding Stored Procedures. The reports are delivered in RDL used by SSRS. These are ready to use “out of the box” and serve as templates for additional reports your staff desire to create.

The iMart DMF Report Pack is built completely built within SSRS and provides a series of approximately 30 templates that our clients use as a baseline to develop any number of reports necessary. As the reporting environment is completely built within SSRS, the application is open to facilitate creation of reports as needed. Our clients received training on the existing report templates and the data model to empower to empower them to be self-sufficient with regards to all aspects of the solution, including reporting.

**iMart Security** – The centralized iMart Security database contains authentication, permission, access control and role information for the iMart system giving row level security access. The system can and has been extended to meet specific client needs (North Dakota and Nevada have extended the model to be able to interface with their internal security systems). The iMart Reports use this structure to return just the data associated with the user running the reports.

**iMart Identify – Unique ID System** - is a Student unique identification system written in C# and Microsoft .Net containing no additional 3rd party components. Built on SQL Server 2008 and the .Net Framework, this product includes both a web based user interface for interactive matching and case management as well as a batch engine for automated bulk matching. It provides complete control over the matching algorithms and weighting assigned to each so you can customize the solution based on your data. Some of these algorithms include:

- Character Frequency Match - occurrence of letters and percentage of letters in common.
- Keyboard Distance Match - the “distance” between two match strings based on how far apart on the standard “qwerty” keyboard the letters are that needed to change to make the 2 strings match perfectly.
- Edit Distance Match -percentage of letters that need to change to make the 2 strings match perfectly.

- **Phonetic Match** - Matches name strings based on similar sound, rather than just based on spelling.
- **Date Match** – Accounts for transpositions in Month/Day fields and other close date logic
- **SSN Match** – Accounts for transpositions in SSN numbers and shifting

In the Louisiana Department of Education engagement we went a step further and created SQL Server 2008 R2 CLR functions from our matching algorithms so that they could be tightly integrated into the system.

**iMart Training** – is “on-the-job” training and mentoring allowing our client’s staff to see every aspect of the design, development, testing, training, and implementation life-cycle. Our experience in previous engagements has seen us successfully train client staff to manage complex applications and data warehouses. It is a measure of our success to transfer our knowledge to district staff and empower you to not only support, but also enhance and grow the solution.

The referenced clients can attest to our success in having them self-sufficient allowing them to maintain and support the system, on their own, without locking them in to a mandatory maintenance and support costs. Throughout the entire “hands on” development, implementation and training, the knowledge and skills to maintain and operate the system are transferred to client staff.

**The iMart Solution training consists of 5 key modules:**

1. **Managing the iMart System** - users will learn how to monitor the data loads; monitor system performance; synchronizing end user security.
2. **Managing and Extending the Data Validation System** - users will learn how to monitor data validation cleanup process; Distribute data validation reports; Add new, or retire old, data validation scripts.
3. **Managing Assessment Loading, Remediation and Reporting** - users will learn how to Load assessments and do remediation.
4. **Extending the iMart System (Adding Subject Areas)** - users will learn how to add additional subject areas; extract and stage data from legacy systems; build additional end-user reports.
5. **Managing the End User Experience** - User will learn to Train End Users to run reports; respond to End User request to extend existing reports or write new ones.

**iMart Load Early Load Often Implementation** – is the OtisEd implementation methodology that iterates deployment by data model subject area. This approach allowed our clients to see results early, to validate existing documentation and to engage the client’s full team in the design, build and deployment cycles.

**iMart Association Membership** – The OtisEd iMart Association and Software Assurance is an optional offering for an annual fee. We do not offer a ‘maintenance’ plan because our philosophy is to provide powerful and relevant software and the training for you to extend it on your own.

Through the Association we provide notification of new releases and patches as they are made available to Association members. Upgrade and patch modules will be available for download from our secure support website. Installation instructions are included to apply the upgrade/patch. Additionally, our

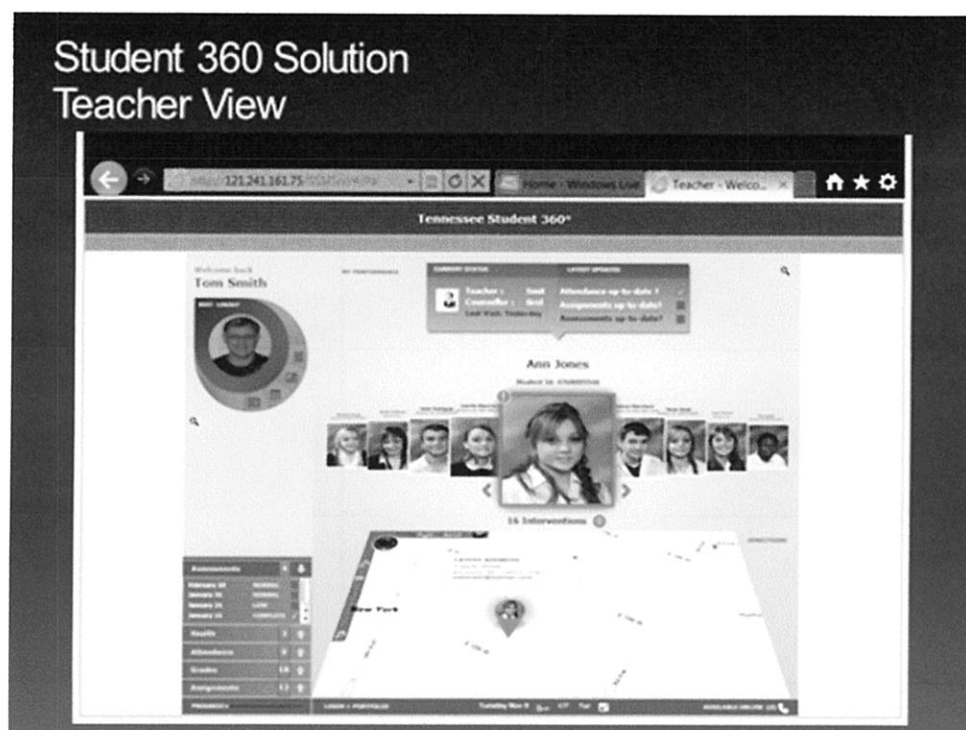


iMart Association enables members to share schemas (subject areas), reports, SSIS scripts, stored procedures, and connectors, etc. via the OtisEd secure online Association Community website.

MNPS has offered their dashboard and development work for redistribution through the association. Louisiana has offered additional subject areas including extended financial reporting and PRAXIS data. North Dakota has offered their security extensions and work on the P20. Nevada has offered additional Assessment reporting and analysis.

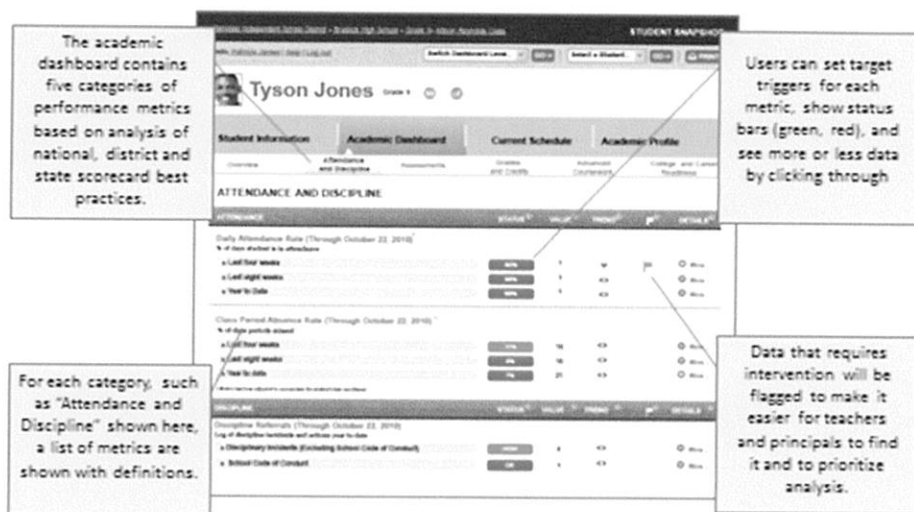
Recently, the association met and reviewed new dashboard options including those from Microsoft and Double Line Partners. It would be recommended as part of A.6 that these options be considered as extensions to the current offering.

The prototype dashboards presented included the following screen shots:



Microsoft Early View

## Developing Intuitive Dashboards – Student View



Double Line Partners Confidential-1

DL//P

Texas Education Agency (TEA) Early Warning System-Student View

## Developing Intuitive Dashboards – Teacher Classroom View

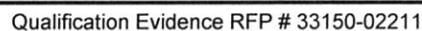


Double Line Partners Confidential-4

DL//P

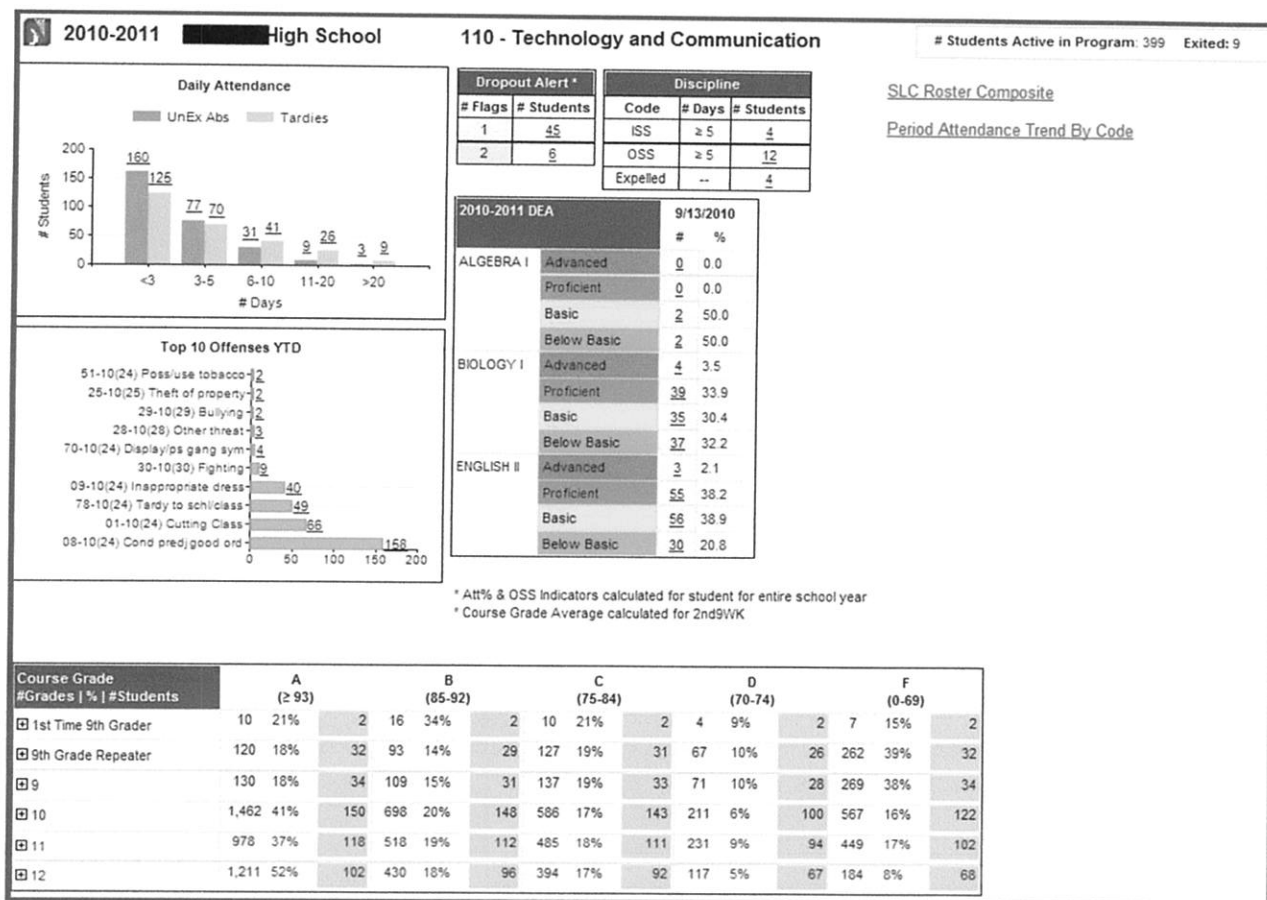
Texas Education Agency (TEA) Early Warning System-Teacher Classroom View

MNPS Director's Dashboard:





## MNPS Principal's Dashboard:



**Microsoft Architecture Solution including SQL Server 2008 R2** – means that the iMart DMF is constructed using Microsoft SQL Server 2008 R2, SQL Server Integration Services, SQL Server Reporting Services, Windows operating systems, Team Foundation Services and SharePoint 2010. The referenced clients are using some or all of these components in their iMart implementations. (i.e. MNPS is not currently using SharePoint 2010 for delivery, instead they have opted to use the Reporting Services Report Manager interface)

**Microsoft BI and Reporting Tools** – the development tools for the iMart DMF include Visual Studio 2008 with service pack 1 and team foundation add in to develop and deploy SSIS packages and SSRS reports. SQL Server Management Studio is used to edit/deploy T-SQL stored procedures and to modify solution DDL. Microsoft Visio, Word, PowerPoint and Excel are used for documentation and Presentation.

**Project Management and implementation resources** – in each of the reference accounts given, OtisEd has supplied project management and/or implementation resources. Following is a list of resources that have been engaged on the referenced accounts that would be recommended as part of the implementation team for the TDOE.

#### **iMart Solution Architect – Eddie Parker (Nevada, Louisiana, North Dakota, MNPS)**

Eddie Parker has over 20 years of experience in computer engineering and application development. He has held positions within the Georgia Tech Research Institute, Metaphor, Computer Associates, and BellSouth. He has served as Director of Professional Services at Sagent Technologies where he began their consulting practice and launched the Sagent Verticals initiative. He has helped implement numerous successful Decision Support Systems (DSS) for clients including IBM, BellSouth, AT&T, and Coca Cola. He has experience in directing, managing and developing large scale systems, using current dimensional modeling and data warehousing techniques and interfacing with a wide range of legacy systems. Eddie has a Bachelor degree in Electrical Engineering from the Georgia Institute of Technology.

Eddie co-founded OtisEd in 1993 and has been actively engaged exclusively in the education market for over a decade; building educational applications around data management, data validation, data cleansing and delivery. OtisEd pioneered handheld use in the K-12 space using Pocket PC and early adoption of .NET and use in K12 for state report cards, data submission, and reporting. Eddie has been focused on producing the best K-12 Data Warehouse framework, P20 Data Warehouse framework and a dimensional star-schema data model second to none. The DMF created by Eddie and OtisEd can be found at numerous LEA's and SEA's across the country.

#### **Project Advisor/Partner – Mitch Johnson (North Dakota)**

Mitch is a dynamic, energetic, and entrepreneurial executive with unique credentials and an impressive client list. Mitch possesses advanced relationship management skills and a proven ability to execute at the senior executive level. He thrives in a team environment and has proven to be an effective developer and leader of highly talented and high potential professionals. Mitch leads the company's involvement in the Global Innovation Forum and the CCSO LEARN and the National Education Data Model (NEDM) projects.

Mitch has helped over 125 clients realize their strategic objectives by effectively designing and implementing operational tactics. Mitch has developed his approach to operational change in over 20 years of hands on strategic and operational expertise. Mitch's experiences includes executive leadership in the world's largest Information Technology Services Company, as well as, providing his clients expert advice and leadership in consulting engagements that range from startup strategy and multi-national operations consolidation to the design and implementation of operational change in single and multi-plant environments.

Mitch is familiar with the various Decision Support Architecture frameworks develop by various education organizations and utilized by various vendors. The appropriate application architecture provides the conceptual model or "framework" for a state department of education to follow when building a comprehensive and fully integrated student information reporting and management system at the state level. As such the frameworks includes the databases, applications, infrastructure and their associated enabling processes integrated into a comprehensive view of hard and soft system elements within each of the framework elements.

#### **Project Manager – Kamal Kumar (Louisiana)**

Kamal is a decisive leader and IT reformer, with more than 27 years of professional success in the information technology field, for Fortune 500 firms, and large public educational organizations. With broad functional expertise in; executive management, strategic planning, project management,

data management, and decision support. Kamal has demonstrated success in; controlling costs, managing multi-million dollar projects, organizing project teams, identifying organization inefficiencies, consolidating redundant systems/functions, and building highly productive IT teams.

Recent project management assignments include but are not limited to: NYC-PS Data Warehouse, NYC-PS Educational Decision Support System, Project Manager of the Louisiana DOE Longitudinal Data System (LDS), PM for The Detroit Public Schools Data Warehouse, Kent Intermediate School District Data Warehouse, Project Manager for the NYC SIS (Student Information System), Parent Portal and PM for the Wyoming State FUSION Portal Project.

#### **Data Architect – JP O'Connor (Nevada, North Dakota, MNPS)**

Senior manager, architect, and consultant with 29 years of professional experience. Past 22 years in the areas of Data Warehousing and Decision Support Systems for Fortune 100 corporations and education institutions. Consulting roles have included Department Manager, Project Manager, Architect, Project Lead, Lead Data Administrator, Modeler, Data Analyst, and Software Engineer. Extensive experience in relational, decision support, and multi-dimensional data modeling and design including extensive training and mentoring from Ralph Kimball. Specialties include dimensional modeling, data mining, data visualization, and statistical analysis. Strong architecture, design, and problem solving skills, regardless of technology. Noted for resolving difficult and very complex design problems and for debugging very tricky and subtle program or system errors and anomalies.

#### **Data Lead - Cathi Richardson (North Dakota)**

Cathi is a results oriented, resourceful and creative technical professional that has successfully worked across disparate industries and delivered effective business solutions. Cathi is able to easily grasp new technologies and train average users in their use as well as summarize to managers and executives the capabilities and suitability to their business. Working on the design, development, and programming of multiple databases and user interfaces for a wide range of business over the past 20 years; including Education, Healthcare, Large Wholesale warehouses, Accounting Firms, and Department of Workforce Solutions, Cathi has re-designed many databases in order to better optimize performance and additional functionality. Cathi has managed in a SharePoint environment and developed/programmed sites based on sql server database design for Student Information Systems as well as managing, designing and developing multiple Business Intelligence reporting projects. Cathi is a top-notch technology professional with a strong understanding of management, data analysis, customer communication skills, and design/development expertise. Cathi works well alone or in groups, has proven to be a top-notch technology expert and conveys a professional demeanor with her personable interactions. Cathi is currently working on ETL design, development and implementation of Early Warning Data Systems specifically in education.

#### **Reporting Lead – Jonn Bogart (North Dakota)**

Jonn Bogart is the Business Intelligence and Design expert and one of creative Microsoft .NET software developers at Celero Corporation. Jonn also works as Project Manager on some of Celero's customer projects. He has worked in software and database design and development for almost 18 years, with his experience starting with UNIX and now working in almost all languages of the MS .NET Framework and Microsoft SQL Server technologies. At Celero, currently, his accomplishment include managing, design and development of multiple Business Intelligence reporting projects for school districts throughout the United States, showing that he has a strong understanding of management, data analysis, customer communication skills, and design/development expertise. Prior to working with Celero, Jonn worked almost exclusively with

the Department of Energy, serving their needs at Los Alamos National labs and the National Nuclear Security Administration. The highlight of his development projects at DoE include enterprise software for managing Weapon's material inventory and tracking and Electronic Software Distribution for all of Los Alamos Labs.

**Microsoft SharePoint Lead – Jim Sheridan (North Dakota)**

James Sheridan has been developing IT and software solutions for over 10 years in a variety of industries, both commercial and government; including education, manufacturing and warehousing, managed technical services, and healthcare. Working on developing and supporting network and server infrastructure ranging from single business network environments to some of the largest state agencies in New Mexico; James has a solid base for software and solution development and is able to draw on a wide variety of experiences to help understand the needs of each project, each challenge, and each client. As a Microsoft SharePoint expert, James brings his vast technical expertise to each project deploying leading edge technology tools, programming languages, and processes. James is a results oriented, technology professional with hands-on experience developing web and client software in Microsoft .NET and open source platforms utilizing database back-ends to include Microsoft SQL Server or MySQL. Building on his experience, James also has a strong focus on security administration, including single web applications, email security administration, and WAN routing and firewalls. James has a strong understanding of management, data analysis, customer communication skills, and design/development expertise to bring the most effective solution to the client that fits their infrastructure and needs.

## Evidence Client References



OtisEd's iMart DMF was selected by the Louisiana Department of Education (LDOE) as the warehouse engine they wanted. So much so, that the top two proposals both used the OtisEd iMart DMF as their data warehouse infrastructure. OtisEd has installed and being working with the LDOE to ETL their twenty-six (26) source systems into the State Longitudinal Data Store. The State of Louisiana has over 600K students, and is one of a handful of "innovative States" in the country, as reported by the New York Times. The LDOE took the iMart DMF and the OtisEd Identify product, which uniquely identifies students and staff within the state, and assigns them a 10-digit identifier. OtisEd resources have also been instrumental in the integration of the MSDF Dashboards in a recent prototype within the State.

Company Name: Louisiana Department of Education

Company Address: 1201 N. Third Street, Baton Rouge, LA 70804

Contact Person: James McMahon - SLDS Project Director

Phone Number: 225- 342-1803

Dates of Contract: April 2010 – On-going



The North Dakota (ND) Department of Public Instruction (DPI) has engaged the OtisEd in several K-12 and P20 SLDS initiatives to include but not limited to conducting a proof-of-concept to automate vertical reporting from all ND PowerSchool student information systems to a single repository at the state. As a result of the successful proof-of-concept, ND DPI is currently finalizing an Amendment to the existing OtisEd contract that terminates in 2013 for further extension of the DPI data warehouse and other projects. 80% of the deliverables are scheduled to be completed by August 2011. Further specifics can be provided through the ND reference.

Celero was initially engaged by ND due to ITD's limited experience and resources creating SharePoint applications, and SharePoint 2010. Functionality included several types of semi-guided searches to filter the data presented, and drill-down capabilities within the data presented (textual and graphical). The bulk of the functionality was delivered as Cognos content through Cognos-provided web parts on a publicly accessible SharePoint portal. Data now leverages existing processes to produce Cognos OLAP cubes as the basis for the reports. Functionality included several types of semi-guided searches to filter the data presented, and drill-down capabilities within the data presented (textual and graphical). The bulk of the functionality was delivered as Cognos content through Cognos-provided web parts on a publicly accessible SharePoint portal. Data now leverages existing processes to produce Cognos OLAP cubes as the basis for the reports. OtisEd and Celero are currently continuing to provide data warehouse expansion and reporting services as well as SLDS Project Management.

Company Name: State of North Dakota

Company Address: 600 E. Boulevard Ave, Bismarck, ND 58505

Contact Person: Tracy Korsmo/State CIO

Phone Number: 701-328-4134

Dates of Contract: February 2010 to present





NDE required a system for statewide data collection from all school districts on a nightly basis to a central data store. OtisEd collaborated with NDE for the delivery of the data collection architecture, design of the nightly operational data store, and the longitudinal data warehouse. Design strategies included but were not limited to: functional and technical data modeling, ETL processing rules and development, source system data error capture and handling, architecture of slowly changing dimensions, as well as partitioning and archiving strategies for both the ODS and LDW. The primary focus of the design was nightly data collection with minimal district interaction and ongoing involvement. OtisEd is currently providing as needed consulting. The iMart Data Management Solution is currently in successful production at the Nevada Department of Education which encompasses 400,000+ students.

The OtisEd training that was provided has enabled our staff to become proficient and self-sufficient with the solution and we are now able to extend the solution as needed to meet our ever-changing requirements. The OtisEd team was extremely competent, as they were flexible and amenable to changes and enhancements as requirements changed. They delivered a high performance, "tailored to fit" solution for our needs that is flexible enough to meet all our needs.

Company Name: Nevada Department of Education

Company Address: 700<sup>th</sup> East 5<sup>th</sup> Street, Carson City, Nevada 89701

Contact Person: Robert Sliva

Phone Number: 775-687-9127

Dates of Contract: November, 2008 completion



OtisEd implemented the iMart DMF providing MNPS data warehouse and ODS capabilities. OtisEd provided professional development on procedures and techniques. OtisEd assisted with configuring nightly data feeds from the district SIS and other student centric applications. In just over 18 months OtisEd and the small MNPS in-house team created and implemented a comprehensive data warehouse solution. The tools provided by OtisEd make the solution flexible and scalable enough to carry MNPS well into the future.

With iMart, MNPS has been able to develop 130+ end user reports to date; which are used by central office and school administration and staff.

The OtisEd engineers are talented and professional. We would recommend them to anyone who is looking to quickly implement and self-manage their own solid data management solution.

Agency/department/office for which performed: Nashville Public Schools

Owner's contract/project manager or other representative: Victoria Philpot (Director, Enterprise Development & Support)

Company Name: Nashville Public Schools

Company Address: 2601 Bransford Avenue Nashville, TN 37204

Contact Person: Victoria Philpot

Phone Number: 615-259-8503

Dates of Contract: June 2008 – February 2010

## **Additional Response Partner Evidence**

### ***Microsoft Services***

Microsoft Services has implemented data warehouses, dashboards and Identity Management in multiple states in the US. On this engagement their statewide Identity Management and dashboard experience will be utilized.

### ***Double Line Partners***

Double Line Partners have been working with the Michael and Susan Dell Foundation on standardized dashboard and early warning systems in Texas and recently has won a project with OtisEd in the state of Delaware where we are combining the iMart Solution with the Double Line dashboard. On this engagement their services will be utilized.